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Geology Highlights Along Ride The Rockies 2002 Route

SUNDAY, JUNE 16 – Alamosa to Pagosa Springs
Pedaling west from Alamosa, we parallel the Rio Grande, the lifeblood of the San Luis Valley and the state of New Mexico. At South Fork, we begin the ascent into Tertiary volcanic rocks of the San Juan Mountains. Layer after layer of ash-flow tuff erupted 27 to 30 million years ago from several sources; upon cooling, columnar joints (or fractures) formed. We cross the Continental Divide at Wolf Creek Pass, and descend into the San Juan River valley. Superheated ground water supplies the springs that give Pagosa Springs its name.

MONDAY, JUNE 17 – Pagosa Springs to Durango
We spend most of this day traversing Cretaceous rocks (66 to 144 million years old) of the Colorado Plateau. Leaving the shale-floored valley of Pagosa Springs, we rise onto sandstone that has been folded and pushed into place above younger rocks. Chimney Rock is the most distinguishing feature we'll pass on today's ride, rising more than 1,000 ft (305 m) above the surrounding landscape. Sandstone forms the hard cap at the top of Chimney Rock. The series of sandstone and shale beds we cross reflects shallow marine, shoreline, and swamp conditions during the Cretaceous when a seaway flooded Colorado.

TUESDAY, JUNE 18 – Durango to Silverton
Durango is on the edge of the Plateau country; as we ascend the Animas River valley—originally named el Rio de Las Animas Perdidas, the River of Lost Souls—we move down through the geologic section from Mesozoic to Paleozoic to Precambrian rocks. Our descent from Molas Pass brings us again into the Tertiary volcanic rocks that form the heart of the San Juan Mountains. Silverton sits in a caldera, the collapsed crater of an ancient volcano; many subsequent volcanic eruptions and glaciation, however, hide this structure. Radial fissures and dikes impregnated the Silverton caldera with ore-forming minerals; mainly silver and gold were mined from this region.

WEDNESDAY, JUNE 19 – Silverton to Montrose
Take the opportunity to pause on your way up Red Mountain Pass, and view a classic glacially U-shaped valley to the south; Bear Mountain is on the horizon. Volcanic activity is responsible for the hot springs in Ouray and elsewhere in the San Juan Mountains. Heading out of the mountains, we leave the Tertiary volcanic rocks behind and move back up through the geologic section—from Precambrian to Paleozoic to Mesozoic rocks that juxtapose the stream-deposited Ice-age glacial debris of the terraces of the Uncompahgre River.

THURSDAY, JUNE 20 – Montrose to Gunnison
Black Canyon of the Gunnison National Park is a short detour north of our route, where the Gunnison River cut a deep gorge (2,425 ft, 740 m) through Precambrian-age gneiss and schist (about 1,800 million years old). The Canyon is the deepest and narrowest in the country; so the name refers to the lack of sunlight rather than the color of the rocks. Along our route, we'll see Dillon Pinnacles north of Blue Mesa Reservoir. Violent volcanic eruptions and mudflows from the West Elk Mountains about 30 million years ago formed the rocks that comprise the Pinnacles. The larger rock fragments protect the softer, muddy ash material from erosion.

FRIDAY, JUNE 21 – Gunnison to Salida
About 20 miles or so east of Gunnison, we'll pass a prominent landmark north of the highway—Tomichi Dome. A laccolith, Tomichi Dome formed when a feeder dike intruded magma between sedimentary layers and bowed them up; encasing sedimentary layers were subsequently eroded revealing the domelike structure. As we crest Monarch Pass, we'll be crossing the Sawatch Range through some of the highest mountains in Colorado. The Sawatch Range is composed of Precambrian-age rocks (1,400 to 1,800 million years old)—mostly granites and some gneiss. Salida is situated in the Arkansas River Valley, the northern extension of the Rio Grande Rift, which began forming 26 million years ago. The Rift consists of a series of half-grabens (elongate blocks of rock down-dropped along one side; the faults of the Rio Grande Rift flip-flop from the west to the east sides of the valleys).

SATURDAY, JUNE 22 – Salida to Alamosa
Precambrian metamorphic rocks are exposed along our route to Poncha Pass at the saddle between the Sawatch and Sangre de Cristo Ranges. As we pedal down the virtually flat San Luis Valley, we'll have an expansive view of the Sangre de Cristo Mountains to the east. Reddish Paleozoic rocks give the Sangre de Cristo Mountains their name. Great Sand Dunes National Monument and Preserve lies east of our route; the Dunes are the tallest in North America (700 ft, 215 m), and started forming at the end of the last Ice Age (about 12,000 years ago).

Alamosa to Alamosa Loop
June 16-22 489 Miles

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